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10/005,399	12/05/2001	David E. Petersen	120362(624226-322)	9413

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EXAMINER
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NGUYEN, HUNG T

ART UNIT	PAPER NUMBER
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2636

DATE MAILED: 07/02/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/005,399

Applicant(s)  
Petersen et al.

Examiner  
HUNG NGUYEN

Art Unit  
2632



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Dec 5, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 & 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Orschek (U.S. 5,394,137) .

Regarding claim 1, Orschek discloses a hand brake alarm apparatus (10) [ figs.1-3, col.2, lines 4-12 , col.3, lines 23-51 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, lines 4-12 , col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ];
- a hand brake position (42) alarm responsive to the alarm signal (30,54,56) [ figs.1-3, col.3, line 23 to col.4, line 18 ].

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Regarding claim 6, Orschek discloses a method of alarming a hand brake of a rail vehicle (10) [ figs.1-3, col.2, lines 4-12, col.3, lines 23-51 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 and col.5, line 43 to col.6, line 6 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ].

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-12 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orschek (U.S. 5,394,137).

Regarding claim 10, Orschek discloses a device for detecting the position of rail vehicle hand brake (10) [ figs.1-3, col.2, lines 4-12 , col.3, lines 23-51 and col.5, line 43 to col.6, line 6 ] comprising:

- a circuit includes detector (50a,50b) as a switch for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 ];

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- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, lines 4-12 , col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ];
- a hand brake position (42) alarm responsive to the alarm signal (30,54,56) [ figs.1-3, col.3, line 23 to col.4, line 18 ];
- a cable or chain linkage can be used for actuating a parking brake by hand [ col.1, lines 11-24 ].

Orschek does not specifically mention a load path for supporting a weight of the drive chain by passing the switch as claimed by the applicant .

However, Orschek clearly discloses the parking brake detection (42) and warning system (30) which are couple to an electronic controller (52) may provide audible (56) and visual warning indicators (54) substantially prevents an operator of a rail vehicle from unnecessarily wearing down the parking brake system for locomotives at all time operating [ figs.1-3, col.2, lines 4-12 , col.3, lines 23-51 and col.5, line 43 to col.6, line 6 ]. Therefore, it would have been obvious to one having ordinary skill in the art to have the system of Orschek for detecting / providing a hand brake position alarm at all time operating to the railway operator before a train is moved with a hand brake not fully released .

Regarding claim 11-12, Orschek does not specifically disclose the hand brake detection further comprises an anchor bracket , pivot arm as mechanically components are applied in the parking brake system .

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However, Orschek clearly discloses the parking brake detection (42) and warning system (30) which are couple to an electronic controller (52) may provide audible (56) and visual warning indicators (54) substantially prevents an operator of a rail vehicle from unnecessarily wearing down the parking brake system for locomotives at all time operating [ figs.1-3, col.2, lines 4-12 , col.3, lines 23-51 and col.5, line 43 to col.6, line 6 ]. Therefore, it would have been obvious to one having ordinary skill in the art to have the system of Orschek for detecting / providing a hand brake position alarm at all time operating to the railway operator before a train is moved with a hand brake not fully released .

5. Claims 2-5 & 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orschek (U.S. 5,394,137) in view of Hosaka et al (U.S. 4,962,570).

Regarding claim 2, Orschek discloses a hand brake alarm apparatus (10) includes a plurality of trucks (16a,16b) as locomotives [ figs.1-3, col.3, lines 11-22 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 and col.5, line 43 to col.6, line 6 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ].

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Orschek does not specifically mention the apparatus includes wheel slip circuit for monitoring sliding motion of the wheels as to prevent the slip from occurring and to notify that problem to the train operator.

Hosaka teaches a technique of using sensors (42,43) for determining the presence of a slip and generating a slip indicative signal [ figs.13-14, col.6, line 67 to col.7, line 15 , col.25, lines 45-67 and abstract ]. Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Hosaka in the system of Orschek for producing a wheel slippage indicative signal when wheel slip is detected .

Regarding claim 3, Orschek discloses a hand brake alarm apparatus (10) includes a plurality of trucks (16a,16b) as locomotives [ figs.1-3, col.3, lines 11-22 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 and col.5, line 43 to col.6, line 6 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ];
- a controller (52) includes a memory device (58) for monitoring / controlling the hand brake alarm signal (54) [ figs.2-3, col.4, lines 1-23 ].

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Orschek does not specifically mention the apparatus includes wheel slip circuit and a reverser detection device for preventing the slip from occurring and providing a reversed position signals to the train operator.

Hosaka teaches a technique of using sensors (42,43) and a control unit (100) for controlling / determining the presence of a slip or the transmission is in reverse gear position at step (4130) [ figs.13-14, col.6, line 67 to col.7, line 15 , col.25, line 45 to col.6, line 11 and abstract ]. Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Hosaka in the system of Orschek for detecting / monitoring the wheel slipping and reverser position status .

Regarding claim 4, Orschek discloses a hand brake alarm apparatus (10) comprises a plurality of trucks (16a,16b) as locomotives may consider a master locomotive and slave locomotives for communicating [ figs.1-3, col.3, lines 11-22 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 and col.5, line 43 to col.6, line 6 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ];
- a controller (52) includes a memory device (58) for monitoring / controlling the hand brake alarm signal (54) [ figs.2-3, col.4, lines 1-23 ].



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Orschek does not specifically mention the apparatus includes wheel slip circuit and a reserve detection device for preventing the slip from occurring and providing a reverser position signals to the train operator.

Hosaka teaches a technique of using sensors (42,43) and a control unit (100) for controlling / determining the presence of a slip or the transmission is in reverse gear position at step (4130) [ figs.13-14, col.6, line 67 to col.7, line 15 , col.25, line 45 to col.6, line 11 and abstract ]. Therefore, it would have been obvious to one having ordinary skill in the art to utilize the teaching of Hosaka in the system of Orschek for detecting / monitoring the wheel slipping and reverser position status .

Regarding claim 5, Orschek discloses a hand brake alarm apparatus (10) comprises a plurality of trucks (16a,16b) as locomotives may consider a master locomotive and slave locomotives for communicating [ figs.1-3, col.3, lines 11-22 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 and col.5, line 43 to col.6, line 6 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ];
- a controller (52) includes a memory device (58) for monitoring / controlling the hand brake alarm signal (54) [ figs.2-3, col.4, lines 1-23 ].

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Orschek does not specifically mention the apparatus includes wheel slip circuit and a reserve detection device for preventing the slip from occurring and providing a reverser position signals to the train operator.

Hosaka teaches a technique of using sensors (42,43) and a control unit (100) for controlling / determining the presence of a slip or the transmission is in reverse gear position at step (4130) [ figs.13-14, col.6, line 67 to col.7, line 15 , col.25, line 45 to col.6, line 11 and abstract ]. Therefore, it would have been obvious to one having ordinary skill in the art to utilize the teaching of Hosaka in the system of Orschek for detecting / monitoring the wheel slipping or reverser position status .

Regarding claims 7-8, Orschek discloses a hand brake alarm apparatus (10) includes a plurality of trucks (16a,16b) as locomotives [ figs.1-3, col.3, lines 11-22 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 and col.5, line 43 to col.6, line 6 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ].

Orschek does not specifically mention the apparatus includes wheel slip circuit for monitoring sliding motion of the wheels as to prevent the slip from occurring and to notify that problem to the train operator.

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Hosaka teaches a technique of using sensors (42,43) for determining the presence of a slip and generating a slip indicative signal [ figs.13-14, col.6, line 67 to col.7, line 15 , col.25, lines 45-67 and abstract ]. Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Hosaka in the system of Orschek for producing a wheel slippage indicative signal when wheel slip is detected .

Regarding claim 9, Orschek discloses a hand brake alarm apparatus (10) comprises a plurality of trucks (16a,16b) may consider a multiple of locomotives [ figs.1-3, col.3, lines 11-22 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 and col.5, line 43 to col.6, line 6 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ];
- a controller (52) includes a memory device (58) for monitoring / controlling the hand brake alarm signal (54) [ figs.2-3, col.4, lines 1-23 ].

Orschek does not specifically mention the apparatus includes wheel slip circuit and a reserve detection device for preventing the slip from occurring and providing a reverser position signals to the train operator.

Hosaka teaches a technique of using sensors (42,43) and a control unit (100) for controlling / determining the presence of a slip or the transmission is in reverse gear position at

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step (4130) [ figs.13-14, col.6, line 67 to col.7, line 15 , col.25, line 45 to col.6, line 11 and abstract ]. Therefore, it would have been obvious to one having ordinary skill in the art to utilize the teaching of Hosaka in the system of Orschek for detecting / monitoring the wheel slipping and reverser position status .

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Orschek (U.S. 5,394,137) in view of Hosaka et al (U.S. 4,962,570) further in view of Hoover ( U.S. 4,161,717).

Regarding claim 13, Orschek discloses a hand brake alarm apparatus (10) includes a plurality of trucks (16a,16b) as locomotives [ figs.1-3, col.3, lines 11-22 and col.5, line 43 to col.6, line 6 ] comprising:

- a detector (50a,50b) for detecting a brake is not fully released [ figs.1-3, col.3, line 23 to col.4, line 8 and col.5, line 43 to col.6, line 6 ];
- an alarm signal (54,56) is activated to inform an operator cab (14) that the brake is not fully released [ figs.1-3, col.2, col.3, line 65 to col.4, line 18 and col.5, line 43 to col.6, line 6 ];
- a controller (52) includes a memory device (58) for monitoring / controlling the hand brake alarm signal (54) [ figs.2-3, col.4, lines 1-23 ].

Orschek does not specifically mention the detection device includes a locked axle indicator and a reverser detection device for preventing the slip from occurring and providing a reversed position signals to the train operator.

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Hosaka teaches a technique of using sensors (42,43) and a control unit (100) for controlling / determining the presence of a slip or the transmission is in reverse gear position at step (4130) [ figs.13-14, col.6, line 67 to col.7, line 15 , col.25, line 45 to col.6, line 11 and abstract ]. Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Hosaka in the system of Orschek for detecting / monitoring the wheel slipping or reverser position status .

The combination of Orschek and Hosaka is still missing the circuit includes a locked axle indicator for providing a warning signal if the sensed speed of one and only one of the axles is less than a predetermined low threshold level.

Hoover teaches a locked axle detector for monitoring speed sensors (21-24) whenever the vehicle is moving at a speed less than a predetermined low threshold level [ col.1, lines 25-44 and col.5, lines 58-64 ]. Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Hosaka and Hoover includes a locked axle indicator in the system of Orschek for providing a warning signal if the sensed speed of one and only one of the axles is less than a predetermined low threshold level.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- Astley (U.S. 4,687,258) Remote control system for a locomotive .
- Allen, Jr. et al. (U.S. 5,590,042) Independent brake control .
- Klink (U.S. 6,006,868) System for monitoring brake status on a rail car .


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung T. Nguyen whose telephone number is (703) 308-6796. The examiner can normally be reached on Monday to Friday from 8:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Daniel Wu can be reached on (703) 308-6730. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Examiner: Hung T. Nguyen

Date: June 17, 2003

  
DANIEL J. WU  
PRIMARY EXAMINER  
6/26/03